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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,744	01/03/2000	JEAN-LUC HOFFMAN	99215	7634

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EXAMINER
COMBS, JANELL A

ART UNIT	PAPER NUMBER
1742	13

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-13

Office Action Summary	Application No.	Applicant(s)	
	09/403,744	HOFFMAN ET AL.	
	Examiner	Art Unit	
	Janelle Combs-Morillo	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on April 16, 2002. These drawings are approved.

Specification

2. The amendment to the specification (response page 3) to page 1 and page 5 ("Page 1, above line 1, Field of the invention; line 9, Description of related art. Page 5, line 29, Summary of the invention.") was not entered. Please distinctly point out the amendment/change (delete, insert, change) that applicant wants to take place.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papich et al (US 5,669,436) in view of Godinho (US 5,954,117 A).

Papich teaches a method of twin roll casting (Fig. 11d) an aluminum alloy comprising (in weight%): 0.5-2.2% Mn, 0.1-0.7% Fe, 0.05-0.6% Si, and 0.05-0.5% Cu (column 6 lines 48-51), to a thickness of 0.150-0.300 inches (column 9 line 20, which is equivalent to 3.8-7.6 mm). The force applied to the rolls during casting taught by Papich at Fig. 11d overlaps the presently

claimed ranges. For example, the presently claimed condition of *Force (ton/meter of strip width)= 300 + 2000/(thickness of cast strip, in mm)* falls within the upper and lower limits of operating pressure given in Fig. 11d of Papich for cast strips 3.8-7.6 mm thick (as taught by Papich, column 9 line 20).

Papich does not specify using "cooled shrinked cylinders" (claim 1) or the temperature of the cylinder shells during casting (claims 2 and 3) as presently claimed. However, Godinho teaches it is conventional to twin roll cast aluminum alloys with an internally cooled twin roll caster (column 8 lines 52-56, column 10 lines 11-14), wherein the surface temperature of the casting rolls is maintained 120-200°C (column 10 lines 13-14). Godinho teaches that said process obtains a strip with a more uniform appearance (column 7 lines 36-37). It would have been obvious to one of ordinary skill in the art to perform the process as taught by Papich of twin roll casting, and further using the cooled cylinders with a surface temperature maintained at 120-200°C, as taught by Godinho (column 10 lines 13-14), because Godinho teaches that said cylinders are able to obtain a more uniform strip and higher casting speed (column 7 line 37, 66).

Neither Godinho nor Papich teach the elongation or yield strength (or earing) obtained by performing said process on the instant Al-Fe-Mn alloy. However, the examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Because the combination of Papich and Godinho teaches a method of twin roll casting Al-Mn-Fe alloys, wherein said alloy composition and method steps substantially overlaps the presently claimed alloy and method steps, then substantially the same properties, such as yield strength, elongation, and earing, are expected to occur. Therefore, it is held that Papich and Godinho has created a prima facie case of obviousness of the presently claimed invention.

Concerning dependent claim 21, as stated above, Godinho teaches a shell temperature >130°C.

Concerning dependent claim 22, Godinho teaches said shell has a thin layer of carbonaceous material (column 3 lines 6-15), which qualifies as a "material with poor thermal conductivity".

Concerning dependent claims 23 and 24, Papich does not specify that the arc of contact between the metal and the casting rolls is less than 60 mm, or less than 56 mm. However, the examiner points out that it is within the disclosure of Papich to adjust the setback (distance of the ceramic caster tip from the point of closest approach of the rolls in the roll bite), because Papich teaches that increasing the setback increases the hot working (column 10 lines 41-46). Therefore, the examiner asserts that it is within the disclosure of Papich to obtain an arc of contact of <60 mm or <56 mm. Alternatively, Godinho teaches that it is conventional for the arc of contact to be less than 100mm (column 4 lines 44-45), and preferably between 50-80 mm (Fig. 2 "Z", column 4 lines 31, 44-49). It would have been obvious to perform the process of twin roll casting as taught by Papich, while using an arc of contact between 50-80 mm, because Godinho teaches that said arc of contact is conventional in the art of twin roll casting aluminum alloys, and

because Godinho teaches that a strip produced by such process step exhibits a more uniform surface (column 4 lines 44-45, column 7 lines 36-37).

Concerning dependent claims 25-31, as stated above, because the combination of Papich and Godinho teaches a method of twin roll casting Al-Mn-Fe alloys, wherein said alloy composition and method steps substantially overlaps the presently claimed alloy and method steps, then substantially the same properties, such as yield strength, elongation, and earing, are expected to occur. Therefore, it is held that Papich and Godinho has created a prima facie case of obviousness of the presently claimed invention.

5. Claims 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godinho (US 5,954,117 A).

Godinho teaches a method of twin roll casting a strip 2-8 mm thick (column 1 line 28), typically 5mm thick (column 7 line 1), with an internally cooled twin roll caster (column 8 lines 52-56, column 10 lines 11-14), wherein the surface temperature of the casting rolls is maintained 120-200°C (column 10 lines 13-14), and a force of 0.75-1.25 ton/m^2 is applied (column 5 lines 16-19). In the examples, a separating force of 350 ton and 280 ton are applied to the 5 mm thick strip, which falls within the presently claimed ranges. Godinho teaches a variety of aluminum alloys are suitable for said process (column 9 lines 7-8), including AA1145 (column 6 line 67), which overlaps the presently claimed composition ranges. Godinho teaches that said process obtains a strip with a more uniform appearance (column 7 lines 36-37) and high casting speed (column 7 line 66).

Godinho does not teach the elongation or yield strength (or earing) obtained by performing said process on the instant Al-Fe-Mn alloy. When the claimed and prior art products

are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Because the Godinho teaches a method of twin roll casting Al-Mn-Fe alloys, wherein said alloy composition and method steps substantially overlaps the presently claimed alloy and method steps, then substantially the same properties, such as yield strength, elongation, and earing, are expected to occur. Therefore, it is held that Godinho has created a prima facie case of obviousness of the presently claimed invention.

Concerning dependent claim 21, as stated above, Godinho teaches a shell temperature >130°C.

Concerning dependent claim 22, Godinho teaches said shell has a thin layer of carbonaceous material (column 3 lines 6-15), which qualifies as a "material with poor thermal conductivity".

Concerning dependent claims 23 and 24, Papich does not specify that the arc of contact between the metal and the casting rolls is less than 60 mm, or less than 56 mm. However, the examiner points out that it is within the disclosure of Papich to adjust the setback (distance of the ceramic caster tip from the point of closest approach of the rolls in the roll bite), because Papich teaches that increasing the setback increases the hot working (column 10 lines 41-46). Therefore, the examiner asserts that it is within the disclosure of Papich to obtain an arc of contact of <60 mm or <56 mm. Alternatively, Godinho teaches that it is conventional for the arc of contact to be

less than 100mm (column 4 lines 44-45), and preferably between 50-80 mm (Fig. 2 "Z", column 4 lines 31, 44-49). It would have been obvious to perform the process of twin roll casting as taught by Papich, while using an arc of contact between 50-80 mm, because Godinho teaches that said arc of contact is conventional in the art of twin roll casting aluminum alloys, and because Godinho teaches that a strip produced by such process step exhibits a more uniform surface (column 4 lines 44-45, column 7 lines 36-37).

Concerning dependent claims 25-31, as stated above, because the Godinho teaches a method of twin roll casting Al-Mn-Fe alloys, wherein said alloy composition and method steps substantially overlaps the presently claimed alloy and method steps, then substantially the same properties, such as yield strength, elongation, and earing, are expected to occur. Therefore, it is held that Godinho has created a prima facie case of obviousness of the presently claimed invention.

Response to Amendment/Arguments

6. In the response filed on April 16, 2002, applicant replaced the Abstract, submitted a substitute Fig. 1, amended the Specification, canceled claims 1-19, and added new claims 20-31. Concerning the argument that the prior art does not teach that the shell temperature will reach a temperature $\geq 80°C$ (response page 8-9), the examiner has provided a new reference to support this point. Applicant's argument that the present invention is allowable over the prior art of record because an arc of contact of below 60 mm unexpectedly achieved a low earing ratio has not been found persuasive. The prior art teaches a substantially overlapping arc of contact of 50-80 mm (Godinho at column 4 line 45, see rejections above). Applicant's argument that the

present invention is allowable over the prior art of record because maintaining a force within the presently claimed limits have been found to be critical to obtain strip of the desired quality (arguments page 9) has not been found persuasive. The prior art teaches maintaining a force within the presently claimed limits (Godinho at column 5 lines 16-19, see also the examples; Papich at Fig. 11d).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached on 7:30 am- 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jcm
June 28, 2002

SCOTT KASTLER
PRIMARY EXAMINER